



October 24, 2016

Tom Moe USS Corporation P.O. Box 417 8771 Park Ridge Dr Mountain Iron, MN 55768

RE: Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on October 12, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melisa M Woods

Massia Wirds

melisa.woods@pacelabs.com

Project Manager

Enclosures

cc: Cory Hertling Terri Sabetti, NTS







CERTIFICATIONS

Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107 Alaska Certification UST-107 Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470 WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality



SAMPLE SUMMARY

Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

Lab ID	Sample ID	Matrix	Date Collected	Date Received	
1276888001	WS-002 Scrubber Make-Up	Water	10/12/16 08:55	10/12/16 16:50	
1276888002	WS-003 Thickner Overflow	Water	10/12/16 08:50	10/12/16 16:50	



SAMPLE ANALYTE COUNT

Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1276888001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1276888002	WS-003 Thickner Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V



ANALYTICAL RESULTS

Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

Date: 10/24/2016 04:45 PM

Sample: WS-002 Scrubber Make	-Up Lab ID:	1276888001	Collected	d: 10/12/16	8 08:55	Received: 10/	12/16 16:50 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered	Analytical	Method: EPA	200.7 Prepa	ration Meth	od: EP/	A 200.7			
Calcium, Dissolved	105	mg/L	5.0	0.29	1	10/13/16 20:47	10/14/16 12:31	7440-70-2	
Magnesium, Dissolved	206	mg/L	5.0	0.67	1	10/13/16 20:47	10/14/16 12:31	7439-95-4	
Total Hardness, Dissolved	1110	mg/L	100	50.0	1	10/13/16 20:47	10/14/16 12:31		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0						
Sulfate	764	mg/L	20.0	10.0	10		10/21/16 21:11	14808-79-8	
Sample: WS-003 Thickner Overf	low Lab ID:	1276888002	Collected	d: 10/12/16	8 08:50	Received: 10/	12/16 16:50 Ma	atrix: Water	
Sample: WS-003 Thickner Overf	low Lab ID:	1276888002	Collected Report	d: 10/12/16	3 08:50	Received: 10/	12/16 16:50 Ma	atrix: Water	
Sample: WS-003 Thickner Overform	Results	1276888002 Units		d: 10/12/16	08:50 DF	Received: 10/	12/16 16:50 Ma	CAS No.	Qual
Parameters	Results		Report Limit	MDL	DF	Prepared			Qual
Parameters 200.7 MET ICP, Lab Filtered	Results	Units	Report Limit	MDL	DF	Prepared		CAS No.	Qual
·	Results Analytical	Units Method: EPA 2	Report Limit 200.7 Prepa	MDL ration Meth	DF nod: EP/	Prepared A 200.7	Analyzed	CAS No.	Qual
Parameters 200.7 MET ICP, Lab Filtered Calcium, Dissolved	Results Analytical	Units Method: EPA 2 mg/L	Report Limit 200.7 Prepa 5.0	MDL tration Meth	DF nod: EP/	Prepared A 200.7 10/13/16 20:47	Analyzed 10/14/16 12:40	CAS No.	Qual
Parameters 200.7 MET ICP, Lab Filtered Calcium, Dissolved Magnesium, Dissolved	Results Analytical 867 85.0 2520	Units Method: EPA 2 mg/L mg/L	Report Limit 200.7 Prepa 5.0 5.0 100	MDL tration Meth 0.29 0.67	DF nod: EP/ 1 1	Prepared A 200.7 10/13/16 20:47 10/13/16 20:47	Analyzed 10/14/16 12:40 10/14/16 12:40	CAS No.	Qual



QUALITY CONTROL DATA

EPA 200.7

Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

Date: 10/24/2016 04:45 PM

QC Batch: 97229 Analysis Method:

QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET Dissolved

Associated Lab Samples: 1276888001, 1276888002

METHOD BLANK: 384141 Matrix: Water

Associated Lab Samples: 1276888001, 1276888002

Blank Reporting Limit MDL Parameter Result Qualifiers Units Analyzed Calcium, Dissolved mg/L ND 0.50 0.029 10/14/16 11:51 Magnesium, Dissolved mg/L ND 0.50 0.067 10/14/16 11:51

LABORATORY CONTROL SAMPLE: 384142

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Calcium, Dissolved mg/L 50 50.6 101 85-115 Magnesium, Dissolved mg/L 50 50.2 100 85-115

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 384143 384144

		1276888001	MS Spike	MSD Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Calcium, Dissolved	mg/L	105	500	500	589	590	97	97	70-130	0	20	
Magnesium, Dissolved	mg/L	206	500	500	690	693	97	97	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 384145 384146

Parameter	Units	1276888002 Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium, Dissolved Magnesium, Dissolved	mg/L mg/L	867 85.0	500 500	500 500	1360 563	1390 586	98 96	105 100	70-130 70-130	3 4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

Date: 10/24/2016 04:45 PM

QC Batch: 98024 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1276888001, 1276888002

METHOD BLANK: 388690 Matrix: Water

Associated Lab Samples: 1276888001, 1276888002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Sulfate mg/L ND 2.0 1.0 10/21/16 15:42

LABORATORY CONTROL SAMPLE: 388691

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfate mg/L 50 51.0 102 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 388692 388693

MS MSD 1276660001 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual Sulfate 50 50 172 90-110 0 20 mg/L 172 100 100

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 388694 388695

MS MSD 1276888001 Spike MS MSD MS Spike MSD % Rec Max RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD Qual Sulfate 764 500 500 1270 1270 101 101 90-110 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 10/24/2016 04:45 PM

PASI-V Pace Analytical Services - Virginia



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USS MinnTac NPDES-Line 3

Pace Project No.: 1276888

Date: 10/24/2016 04:45 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1276888001 1276888002	WS-002 Scrubber Make-Up WS-003 Thickner Overflow	EPA 200.7 EPA 200.7	97229 97229	EPA 200.7 EPA 200.7	97281 97281
1276888001 1276888002	WS-002 Scrubber Make-Up WS-003 Thickner Overflow	EPA 300.0 EPA 300.0	98024 98024		

							12	±.	70	9	œ	4	Ð	O)	4	3	2	-	ITEM #		Reques	Phone:	Mt. Iron	Address	Compar	Require	Section	
						ADDITIONAL COMMENTS							,				WS-003 Thickner Overflow	WS-002 Scrubber Make-Up	SAMPLE ID One Character per box. (A-Z, 0-9 /, -) Sample lds must be unique		ted Due Date:		MN 55768	E P.O. Box 417	y: USS Corporation	ed Client Information:		Pace Analytical
						·REI													MATRIX CODE Drinking Walter WY Water Word Product OII OII Whipe Air Other Tissue CODE COD	i rojeci ii.	Project #	Project Name		Сору То:	Report To: T	Required Proje	Section B	
					E.	INOUIS	┢							•			\$	3	MATRIX CODE (see valid codes to left) SAMPLE TYPE (G=GRAB C=COMP)		2	*	•		om Mo	ect Infa		
		SA			nector	HED BY LAFFI											80मामक	10-12-0	STARI		DES-LINE 3	One I ME o			О	ormation:		
SIGNAT	PRINT N	MPLER NA				ILIATION						_					7:50/07	8.53/0-	ME OLLE		VVKIY	Ana					-	Ω
JRE of SA	ame of SA	AME AND S				3 3 25									·	<u> </u>	,308.1	2708	<u>'''</u>									HAN-
MPLER	WP LER	SIGNAT			374	ĀTE											<u>د</u>	3	SAMPLE TEMP AT COLLECTION								יי ר	Ŷ.
•	.~	JRU:																	# OF CONTAINERS	4	2 2	200	Ada	Com	Atter	Invo	Sect	S
>	Po	100			5,	TWE										-	 		Unpreserved H2SO4	10		Droie	ess:	pany N	ttion:	ice Inf	ion C	STC
.	٤			+																3	* N	Man		lame:		ormati	9	֡֝֟֝֓֟֓֟֓֟֓֟֟֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֓֓֡֓֡֓
	3																		HCI		age:	200				on:	ģ	3
ا ۱	te					à						_,							NaOH at the first section of t	ı	2						2	na na
١.	10	DATA MONEY				CEPTE									<u> </u>				Methanol	l	amer	-	1	Ļ.	1_1	<u> </u>		ੋਿ₹
	(-					raed													Other	-3	ZIKa@			3 1 1	5		2	
┥					4	Æ											×	×		200	paceia		$\ $	÷	2		1.1	2
DAT				`	4	NOITA											×	×	Lab FILTERED: Ca,Mg,Hard		DS.CO			i i k		•		7 . 7. 1 2. • 7. 1
Sign		100 mg			ľ														i i i i i i i i i i i i i i i i i i i	2000 Kg	3	'		1	V	,		
Ē	ĺ														_	<u> </u>								1:	ç	3		2
				\dashv	10.							l			_	 -	\vdash	 	nays		i			i.	4	ช	בַ \	5
		8.0			12	DATE															,	æ	Salve	2 100	\		ا ج	9
				-																	東 が で	A POSITIVE SERVICE					te	20
					650																100	NAME OF TAXABLE PARTY.			;		-	
						102															24.20	S				ero His	0/2	
MF	⊃ in C	;			7-0										<u></u>				Residual Chlorine (Y/N)		Stati	200	Regul		4	M.	6/16	
	ived (on			خر	SAMI											洰	LF,U		が一般の	9 / Loc	8 (2)	atory A		} *			
N)				_	1	SE CO											П	"			ation		gency	ľ				
aled ole	d ∋r				×	NDITIC															X 60 10 2	20 CARD 100	100 100 100 100 100 100 100 100 100 100			Ģ		
M) mp	oles				7	SNK														- FEE			1000			-		
	DATE Signed: MI DEC (N) Istic along (N) Istic	DATE Signed: DA	INCE Cont Month Land Control Contro	DATE Stoned: DATE Stoned: MP in C Received on (N) Instituty aied voler (N) instituty aied voler (N)	DATE Stoned: DATE Stoned: MP in C scelved on (N) stody aled poler (N) miples act	DATE Stoned: DA	SAMPLER NAME AND SIGNATURE SIGNATURE of SAMPLER: ACCEPTED BY AFFILIATION DATE SIGNATURE	SAMPLER NAME AND SIGNATURE SIGNATURE of SAMPLER: SIGNATURE OF SAMP	ADDITIONAL COMMENTS RELINGUISHED BY LAFFILATION CO-12-TG 16'50 PRINT Name of SAMPLER: PRINT Name of SAMPLER: SIGNATURE PRINT Name of SAMPLER: SIGNATURE PRINT Name of SAMPLER: DATE SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: DATE SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: SIGNATURE of SAMPLER: DATE SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: DATE SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: DATE SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLE SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLER: SIGNATURE of SAMPLE SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLE SIGNATURE PRINT Name of SAMPLER: SIGNATURE of SAMPLE SIGNATURE PRINT Name SIGNATURE PRINT NA	SAMPLER NAME AND SIGNATURE SOMPLER. SOMPLER. SOMPLER. SOME TIME SOMPLER. SOMPLER	SAMPLER NAME AND SQUATURE SOUTH Name of SAMPLER: SIGNATURE of SAMP	SAMPLER NAME AND SIGNATURE SOUNTINE SIGNATURE SOUNTINE OF SAMPLER. DATE SIGNATURE PRIOR SOUNTINE OF SAMPLER. DATE SIGNATURE SOUNTINE OF SAMPLER. DATE SAMPLER. DATE SIGNATURE SOUNTINE OF SAMPLER. DATE SAMPLER. DAT	SUMPLER VAME AND SIGNATURE PRINT Harm of SAMPLER: SIGNATURE SIGNATURE PRINT HARM OF SIGNATURE PRINT HARM OF SAMPLER: PRINT HARM	SCHATURE OF SAMPLER WARE ACCEPTED BY JAPPILOTON DATE THE SCHATURE SCHATURE OF SAMPLER WARE ACCEPTED BY JAPPILOTON DATE PRINT Name of SAMPLER WARE ACCEPTED BY JAPPILOTON DATE SCHATURE OF SAMPLER WARE ACCEPTED BY JAPPILOTON DATE PRINT Name of SAMPLER WARE ACCEPTED BY JAPPILOTON DATE SCHATURE OF SAMPLER WARE ACCEPTED BY JAPPILOTON DATE SCHATURE OF SAMPLER WARE ACCEPTED BY JAPPILOTON DATE PRINT Name of SAMPLER WARE ACCEPTED BY JAPPILOTON DATE SCHATURE WARE ACCEPTED BY JAPPILOTON DATE SCHATURE WARE ACCEPTED BY JAPPILOTON DAT	SOUNTURE of SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE PRINT Name of SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE PRINT Name of SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE PRINT Name of SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE PRINT Name of SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE PRINT NAME AND SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE HARD SCANTURE SOUNTURE OF SAMPLER HARD SCANTURE HARD	SAMPLES NAME AND SOUTHINGS OF THE SOUNT OF T	SOUNTINE ORDINATION DOTTE THE SAMPLE CONDITIONS SOUNTINE ORDINATION SOUNTINE ORDINATION DATE THE SAMPLE CONDITIONS SOUNTINE ORDINATION SOUNTINE ORDINAT	SOUTH AND CONTROL OF THE PROPERTY OF THE PROPE	AND AND STATE OF THE STATE OF T	SAMPLE ID SAMPLE ID SAMPLE ID SAMPLE ID SAMPLE ID SAMPLE ID SAMPLE TYPE (DAGRAG CACOMY) SAMPLE T	AMPLE ID AMPLE ID AMPLE ID AMPLE ID AMPLE ID AMPLE ID AMPLE THE GO-GARAG C-COMP) AMPLE THE GO-GARAG C-COMP)		SAMPLE TIME SAMPLE TIME	SAMPLE ID	To some State of the Control of the	The state of the s	Control Cont	Section II Dec Date: 107.06.16 Constitution

Pace Analytical

Document Name: Sample Condition Upon Receipt Form

Document No.: F-VM-C-001-Rev.09 Document Revised: 23Feb2015 Page 1 of 1

Issuing Authority:

Pace Virginia, Minnesota Quality Office

Simple Sondition Client Name: Upon Receipt			Project i	W0#:1276888
Courier: Fed Ex UPS Commercial Pace	USPS Other:	,—	Client	1276888
Tracking Number:				
Custody Seal on Cooler/Box Present?	, Vo	Seals I	ntact?	Yes Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap Bubble Bag	s Zín	one [Other:	Temp Blank? ✓ Yes ☐ No
Thermometer Used: 🖳 140792808	Type of	Ice:].Wet [Blue None Samples on ice, cooling process has begun
Cooler Temp Read °C: 6.7 Cooler Temp Co Temp should be above freezing to 6°C Correction Factor	or: <u>0, 3</u>		Date and	Biological Tissue Frozen? Yes No No NA d Initials of Person Examining Contents: Coll 10-13-16 Comments:
Chain of Custody Present?	Yes	□No	□N/A	1.
Chain of Custody Filled Out?	Yes	□No	□N/A	2.
Chain of Custody Relinquished?	ZYes	□No	□n/A	3.
Sampler Name and Signature on COC?	Yes	□No	□N/A	4.
Samples Arrived within Hold Time?	Yes	□No	□N/A	5.
Short Hold Time Analysis (<72 hr)?	□Yes	⊅ No	□N/A	6.
Rush Turn Around Time Requested?	Yes	ZNo	□N/A	7.
Sufficient Volume?	Yes	No	N/A	8.
Correct Containers Used?	Yes	No	□N/A	9.
-Pace Containers Used?	ZYes	□No	□N/A	
Containers Intact?	Yes	□No	□N/A	10.
Filtered Volume Received for Dissolved Tests?	□Yes	□No	N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	∠ Yes	□No	□N/A	12.
-Includes Date/Time/ID/Analysis Matrix: $oldsymbol{\mathcal{U}}$	UT.			
All containers needing acid/base preservation will be checked and documented in the pH logbook.	□Yes	□No	Øn/a	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	□Yes	□No	I □N/A	13.
Heads pace in VOA Vials (>6mm)?	Yes	□No	☑N/A	14.
Trip Blank Present?	☐Yes	□No	ĎN/A	15.
Trip Blank Custody Seals Present?	☐Yes	□No	☑N/A	
Pace Trip Blank Lot # (if purchased):				
CLIENT NOTIFICATION/RESOLUTION				Field Data Required? Yes No
Person Contacted:				Date/Time:
Comments/Resolution:				
		· · · · · · · · · · · · · · · · · · ·		

FECAL WAIVER ON FILE

TEMPERATURE WAIVER ON FILE

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of

hold, incorrect preservative, out of temp, incorrect containers) Page 11 of 11